

REMARKS

Claims 1, 3-12, 14-18 and 20 are pending in the present Application. Examiner has identified language deemed "intended use" language in claim 5. Applicants have corrected this language.

Examiner has finally rejected claims 1, 3-12, 14-18 and under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Application Publication No. 2001/0044805 by Multer et al. ("Multer") in view of U.S. Patent Application Publication No. 2002/0116404 by Cha et al. ("Cha"). Multer discloses a synchronization system in which data may be transferred and synchronized between systems independent of the form in which the data is kept on the respective systems. A management server 1410 interacts with device engines 1450 to control authorized access to information on a server 1420, 1425 before performing synchronization. See paragraphs [0200] and [0202]. "Certain storage server implementations may utilize locking semantics to control read and write access to storage for multiple device engines. For example, in a generic FTP request, if two device engines attempt to connect to the same data at the same time, there must be some form of *locking control to prevent device engines accessing the same data at the same time*. In this instance, the management server controls the device engine acquisition, renewal, and releasing of locks against data stored in the network." Paragraph [0202], emphasis added. Each device may initiate synchronization and if authentication of the device is successful, "the management server *may* initiate a management server lock on the storage server so that *no conflicting device engines* may couple to the *same data* at the same time." Paragraph [0224], emphasis added. Multer does not clearly explain when the server lock

is to be engaged. Cryptically, Multer discloses that the data flow for the management server includes a plurality of locking modules for, *inter alia*, beginning, continuing, and ending a sync. See paragraph [0212] and Fig. 17.

Examiner observes that Multer does not disclose a first list change identifier, and introduces Cha to provide that missing element for Multer in a combination presumably made according to known methods to predictably yield Applicant's claimed invention. Cha discloses a transaction processing system employing a logging system that provides for recovery of a main memory database in the event of a failure such as a system crash. Updates to the database are recorded as log records in a log file. Five types of log records are disclosed: transaction start, transaction end, update, checkpointing start, and checkpointing end (see paragraph [0034]). Upon a need for database recovery, log records may be scanned backward, that is, "a transaction end log record is encountered before any other log records of the transaction. When an aborted transaction is encountered, there is no need to play the records of the transaction." Paragraph [0043]. Thus, each log record is a recording of a particular transaction. A log record is stored and includes identification fields LSN (Log Sequence Number), TID (Transaction ID), PrevLSN, Type, Backup ID, Page ID, and Offset. See paragraph [0035]. Operation of Cha's recovery technique involves "taking a before-image of database in main memory before an update to the database; taking an after-image of the database after the update; generating a log by applying bit-wise exclusive-OR (XOR) between the before-image and the after-image; and performing either a redo or undo operation by applying XOR between said one or more logs and the database." Paragraph [0016].

Applicants have claimed their invention as including:

A) A first change list creator that creates a first change list that lists change indicia of each change made during a selected time period. Note that the change list is inclusive of indicia of each of the changes made, not just of a single transaction.

B) A first change list identifier that identifies the first change list, not an individual record in the list. Cha, in order to accomplish data recovery, identifies each individual transaction (log record) and has no need for an identification for the log itself.

C) A first change lock-list that is configured to lock the first change list to prohibit changes to that first change list. Thus, Applicants' desire that subsequent additions, deletions, or other alterations to the change list are prevented, thereby assuring the integrity of the contents of the change list for appropriate data comparisons during synchronization. See Applicants' published Application, paragraph [0002]. Multer does not teach that a change list is to be locked; Multer teaches that access to the data in the database is locked against access by more than one device engine.

D) Changes to the first change list are prohibited upon commencement of the synchronization process. Multer does not teach this specific limitation. Multer may lock a database when access by more than one device engine attempts access to the database but does not state that the synchronization process specifically includes the locking of the first change list without conditions (like attempted multiple access).

A proper §103 combination is one in which the only difference between the claimed invention and the prior art references is the lack of actual combination of the elements in a single prior art reference and that, in combination, each element merely would have performed the same function as it did separately. As explained above, Cha must be modified such that the entire list of log records must, itself, be provided a list identifier. Such a new requirement changes the principle of operation of Cha. In so doing, a combination of Cha with Multer cannot

properly be made and Applicants' claims are not *prima facie* obvious. See MPEP §2143.01. In addition to this improperly combined element of Cha, Multer, itself, does not disclose all of Applicants' claimed elements: the prohibition of changes to the change list rather than an access blocking of contending entities to the data, and the unconditional imposition of blocking upon synchronization commencement. Accordingly, the §103 rejection of independent claims 1 and 12 (claim 12 includes limitations similar to those of claim 1 such that the foregoing argument also applies to claim 12) is improper. Since the independent claims are believed allowable, the claims dependent thereon are also believed to be allowable.

In light of the foregoing amendment and remarks, Applicants believe all of the pending claims are allowable. Examiner is respectfully urged to enter the present Amendment, reconsider the present Application, withdraw the claims rejection, and pass the present Application to allowance. In the alternative, Examiner is respectfully requested to enter the present Amendment as placing the present Application in a condition better suited for appeal.

Respectfully submitted,

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